

LISTING OF CLAIMS:

Claims 1 and 2 (Previously cancelled)

Claim 3 (Currently amended): The surface-modified, pyrogenically produced oxides doped by aerosol, characterized in that the oxides are selected from the group consisting of SiO_2 , Al_2O_3 , TiO_2 , B_2O_3 , ZrO_2 , In_2O_3 , ZnO , Fe_2O_3 , Nb_2O_5 , V_2O_5 , WO_3 , SnO_2 and GeO_2 , wherein the surface- is modified with one or several compounds selected from the following groups:

a) Organosilanes having either formula $(\text{RO})_3\text{Si}(\text{C}_n\text{H}_{2n+1})$ or $(\text{RO})_3\text{Si}(\text{C}_n\text{H}_{2n-1})$, wherein

R = alkyl, and

n = 1 – 20;

b) Organosilanes having either formula $\text{R}'_x (\text{RO})_y \text{Si}(\text{C}_n\text{H}_{2n+1})$ or $(\text{RO})_3\text{Si}(\text{C}_n\text{H}_{2n-1})$, wherein

R = alkyl,

R' = alkyl,

R' = cycloalkyl

n = 1 – 20,

x+y = 3,

x = 1, or 2, and

y = 1, or 2;

c) Halogen organosilanes having either formula $\text{X}_3 \text{Si}(\text{C}_n\text{H}_{2n+1})$ or $\text{X}_3 \text{Si}(\text{C}_n\text{H}_{2n-1})$, wherein

X = Cl, or Br, and

n = 1 – 20;

d) Halogen organosilanes having either formula $X_2 (R') Si(C_nH_{2n+1})$ or

$X_2 (R') Si(C_nH_{2n-1})$, wherein

X = Cl, or Br

R' = alkyl[[,]] and cycloalkyl, and

n = 1 – 20;

e) Halogen organosilanes having formula $X (R')_2 Si(C_nH_{2n+1})$ or

$X (R')_2 Si(C_nH_{2n-1})$, wherein

X = Cl, or Br;

R' = alkyl[[,]] and cycloalkyl, and

n = 1 – 20;

f) Organosilanes having the formula $(RO)_3Si(CH_2)_m-R'$

R = alkyl,

m = 0, or 1-20, and

R' = methyl-, aryl-, $-C_6H_5$, substituted phenyl groups,

$-C_4F_9$, $OCF_2-CHF-CF_3$, $-C_6F_{13}$, $-O-CF_2-CHF_2$,

$-NH_2$, $=N_3$, $-SCN$, $-CH=CH_2$, $-NH-CH_2-CH_2-NH_2$,

$-N-(CH_2-CH_2-CH_2NH_2)_2$,

-OOC(CH₃)C = CH₂,

-OCH₂-CH(O) CH₂,

-NH-CO-N-CO- (CH₂)₅,

-NH-COO-CH₃, -NH-COO-CH₂-CH₃, -NH-(CH₂)₃Si(OR)₃,

-S_x-(CH₂)₃Si(OR)₃, where x is 0, one or more,

-SH, or

-NR'R''R''', wherein R' = alkyl, or aryl; R'' = H, alkyl, aryl; and R''' = H, alkyl, aryl,

benzyl, or C₂H₄N(R''''₂), wherein R'''' = H, or alkyl;

g) Organosilanes having the formula (R'')_x (RO)_y Si(CH₂)_m-R', wherein

R'' = alkyl, or cycloalkyl,

x+y = 2,

x = 1, or 2,

y = 1, or 2,

m = 0, or 1 to 20, and

R' = methyl-, aryl, -C₆H₅, substituted phenyl groups,

-C₄F₉, -OCF₂-CHF-CF₃, -C₆F₁₃, -O-CF₂-CHF₂,

-NH₂, -N₃, SCN, -CH= CH₂, -NH-CH₂-CH₂-NH₂,

-N-(CH₂-CH₂-NH₂)₂,

-OOC (CH₃)C = CH₂,

-OCH₂-CH(O) CH₂,

-NH-CO-N-CO-(CH₂)₅,

-NH-COO-CH₃, -NH-COO-CH₂-CH₃, -NH-(CH₂)₃Si(OR)₃,
 -S_x-(CH₂)₃Si(OR)₃, where x is 0, one or more, or -SH , or
 -NR'R''R''', wherein R' = alkyl; or aryl; R'' = H,
 alkyl, or aryl; and R''' = H, alkyl, aryl, benzyl, or
 C₂H₄N(R''''')₂, wherein R'''' = H, or alkyl ;

h) Halogen organosilanes having the formula X₃Si (CH₂)_m-R', wherein

X = Cl, or Br,

m = 0, 1 – 20,

R' = methyl-, aryl[[]], -C₆H₅, substituted phenyl groups

-C₄F₉, -OCF₂-CHF-CF₃, -C₆F₁₃, -O-CF₂-CHF₂,
 -NH₂, -N₃, SCN, -CH=CH₂, -NH-CH₂-CH₂-NH₂,
 -N-(CH₂-CH₂-NH₂)₂,
 -OOC (CH₃)C = CH₂,
 -OCH₂-CH(O) CH₂,
 -NH-CO-N-CO-(CH₂)₅,
 -NH-COO-CH₃, -NH-COO-CH₂-CH₃, -NH-(CH₂)₃Si(OR)₃,
 -S_x-(CH₂)₃Si(OR)₃, where x is 0, one or more, or
 -SH;

i) Halogen organosilanes having the formula (R)X₂Si(CH₂)_m-R', wherein

X = Cl, or Br,

R = alkyl such as methyl-, ethyl-, or propyl-,
 m = 0, or 1 – 20, and
 R' = methyl-, aryl-, $-C_6H_5$, substituted phenyl groups,
 $-C_4F_9$, $-OCF_2-CHF-CF_3$, $-C_6F_{13}$, $-O-CF_2-CHF_2$,
 $-NH_2$, $-N_3$, SCN , $-CH=CH_2$, $-NH-CH_2-CH_2-NH_2$,
 $-N-(CH_2-CH_2-NH_2)_2$,
 $-OOC(CH_3)C=CH_2$,
 $-OCH_2-CH(O)CH_2$,
 $-NH-CO-N-CO-(CH_2)_5$,
 $-NH-COO-CH_3$, $-NH-COO-CH_2-CH_3$,
 $-NH-(CH_2)_3Si(OR)_3$,
 $-S_x-(CH_2)_3Si(OR)_3$, where x is 0, one or more, or
 $-SH$;

(j) Halogen organosilanes having the formula $(R)_2XSi(CH_2)_mR'$, wherein

$X = Cl$, or Br ,

R = alkyl,

m = 0, or 1 – 20, and

R' = methyl-, aryl-, $-C_6H_5$, substituted phenyl groups,

$-C_4F_9$, $-OCF_2-CHF-CF_3$, $-C_6F_{13}$, $-O-CF_2-CHF_2$,

$-NH_2$, $-N_3$, SCN , $-CH=CH_2$, $-NH-CH_2-CH_2-NH_2$,

$-N-(CH_2-CH_2-NH_2)_2$,

-OOC (CH₃)C = CH₂,

-OCH₂-CH(O) CH₂,

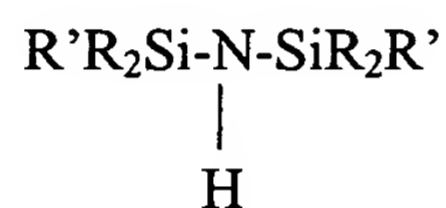
-NH-CO-N-CO-(CH₂)₅,

-NH-COO-CH₃, -NH-COO-CH₂-CH₃, -NH-(CH₂)₃Si(OR)₃,

-S_x-(CH₂)₃Si(OR)₃, where x is 0, one or more, or

-SH;

(k) Silazanes having the formula

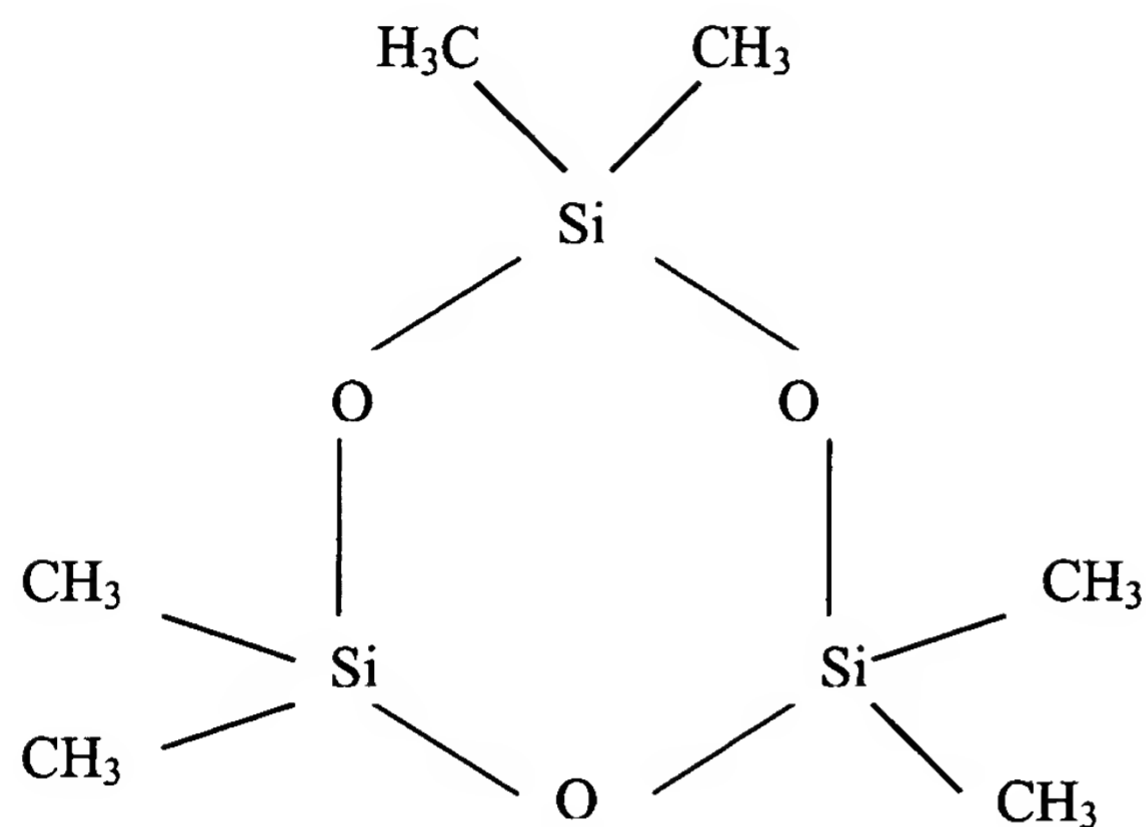


wherein R = alkyl, and

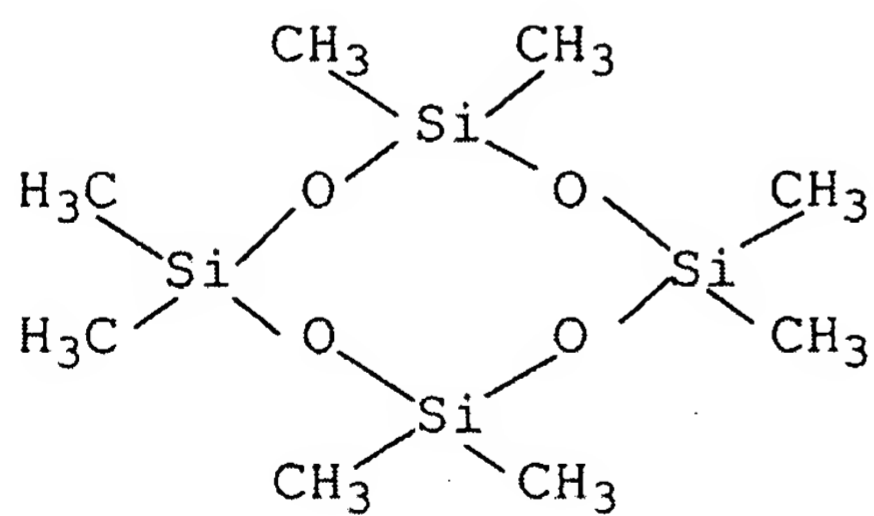
R' = alkyl, or vinyl; or

(l) Cyclic polysiloxanes D 3, D 4 or D 5,

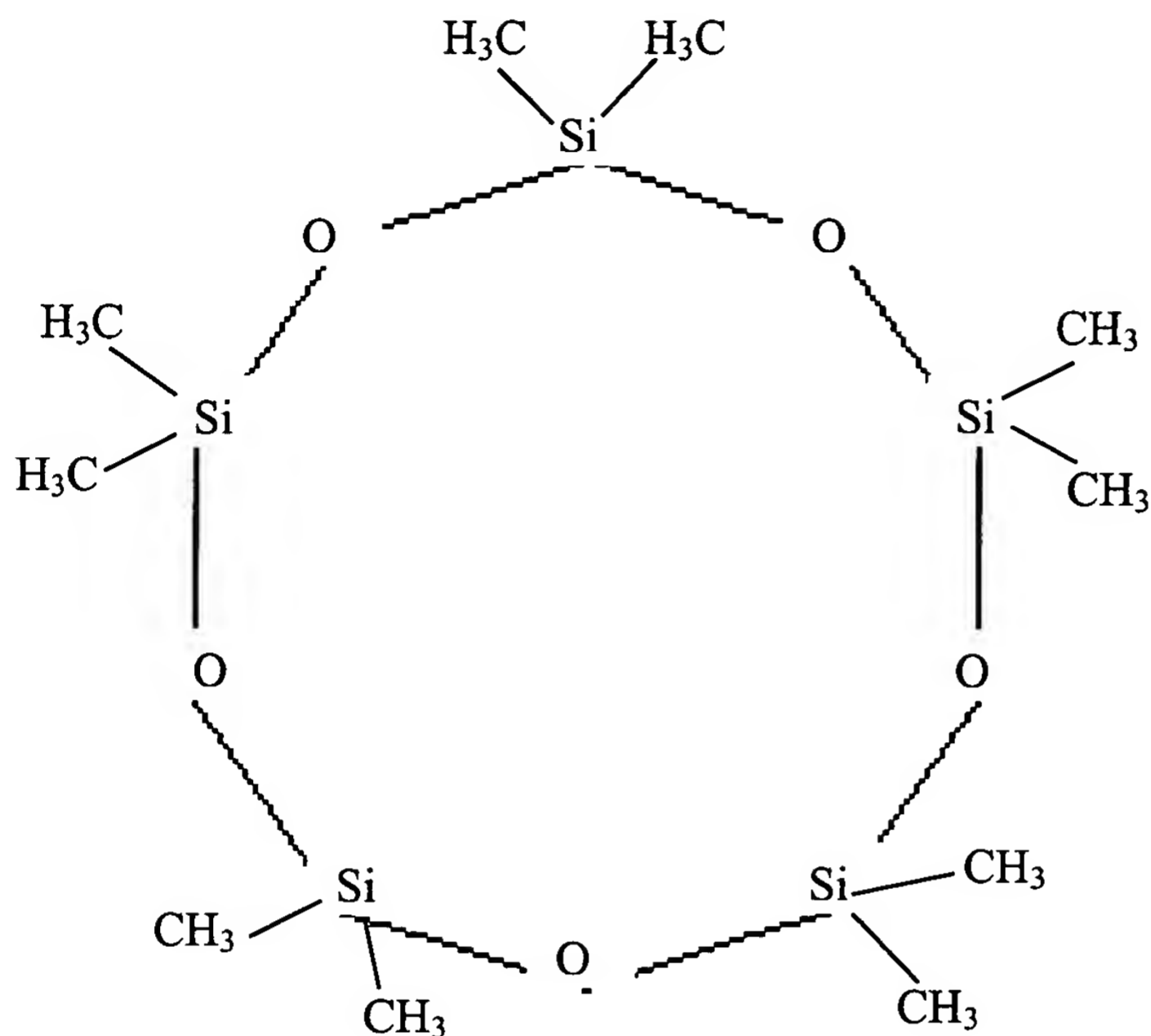
where 1) D3 has the formula:



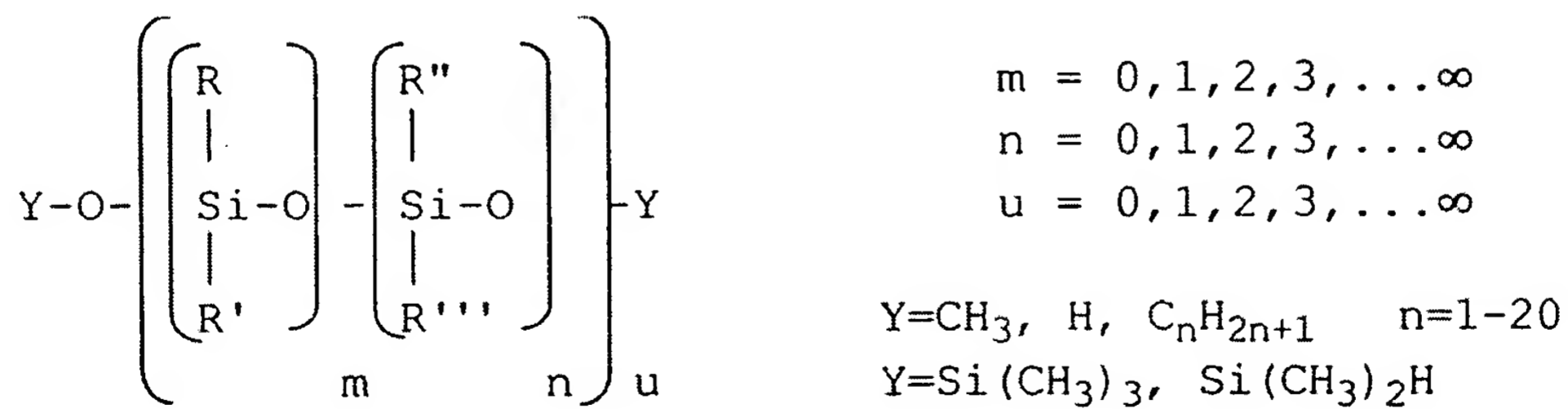
2) D4 has the formula:



and 3) D5 has the formula:



m) Polysiloxanes or silicone oils having any one of the formula



, $Si(CH_3)_2C(CH_3)_2(OCH_3)$, or

$Si(CH_3)_2(C_nH_{2n+1})$, wherein $n=1-20$,

wherein,

R = alkyl, aryl, $(\text{CH}_2)_n\text{-NH}_2$, or H,

R' = alkyl, aryl, $(\text{CH}_2)_n\text{-NH}_2$, or H,

R'' = alkyl, aryl, $(\text{CH}_2)_n\text{-NH}_2$, or H,

R''' = alkyl, aryl, $(\text{CH}_2)_n\text{-NH}_2$, or H.

Claim 4 (Previously presented): A method of producing the surface-modified oxides in accordance with claim 3, comprising placing pyrogenically produced oxides doped by aerosol in a suitable mixing container, spraying the oxides under intensive mixing with the surface-modification reagent or a mixture of several surface-modification reagents.

Claim 5 (Previously presented): In a reinforcing filler composition wherein the improvement comprises the surface-modified oxides according to claim 3 as reinforcing filler.

Claim 6 (Original) The method of claim 4 wherein the spraying step includes spraying with water and/or acid prior to the spraying with the surface-modification reagent or a mixture of several surface-modification reagents.

Claim 7 (Original) The method of claim 4 further comprising re-mixing at 15 to 30 minutes and tempering at a temperature of 100 to 400 °C for a period of 1 to 6 hours.

Claim 8 (Currently amended) The surface-modified, pyrogenically produced oxides according to claim 3 wherein the cyclic polysiloxanes is ~~type~~ D 4.

Claim 9 (Cancel)